



FACT SHEET

Vibrio parahaemolyticus

What is *Vibrio parahaemolyticus*?

Vibrio parahaemolyticus is a bacterium that primarily causes gastrointestinal illness. Like a number of species of the *Vibrio* bacteria, it naturally inhabits coastal waters in North America and can cause illness from eating contaminated shellfish, or less frequently through open wound exposed to seawater. *V. parahaemolyticus* illness is very different from cholera, which is caused by a different *Vibrio* species, *Vibrio cholerae*. CDC receives reports of over 400 *Vibrio* illnesses each year, and approximately half are due to *V. parahaemolyticus*. In the United States *V. parahaemolyticus* is the most common *Vibrio* species isolated from humans, as well as the most frequent cause of *Vibrio*-associated gastroenteritis. *V. parahaemolyticus* illness is most frequently reported from Pacific, Gulf Coast, and Atlantic coast states. Cases also occur in non-coastal states as a result of contaminated seafood or travel.

Symptoms of infection with *Vibrio parahaemolyticus*

- Watery diarrhea
- Abdominal cramps
- Nausea, vomiting
- Fever, chills
- If an open wound is exposed to *V. parahaemolyticus*, increasing swelling, redness, and pain may develop at the site of the wound
- In a few cases, persons with *V. parahaemolyticus* infection may develop septicemia with low blood pressure and shock

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Illness caused by V. parahaemolyticus

V. parahaemolyticus typically causes gastroenteritis after eating contaminated shellfish. Symptoms generally present within 12-24 hours of ingestion, but may range from 4 to 30 hours. Illness tends to be self-limited, lasting an average of 3 days. Less frequently, especially among those with weakened immune systems, infection is more severe, requiring hospitalization. *V. parahaemolyticus* can also cause wound infections which are generally more severe than gastrointestinal illness and much more likely to require hospitalization. On rare occasions, the infection can spread to the bloodstream.

How people become infected

Most people become infected by eating raw or undercooked shellfish, particularly oysters, or other food contaminated by raw shellfish. Oysters and other shellfish may be naturally contaminated if *V. parahaemolyticus* is present in their growing waters. Skin infection may occur when open wounds are exposed to warm saltwater. While most people are susceptible to gastroenteritis, those with liver disease, diabetes, peptic ulcer or immunosuppression, are at greatest risk for severe infection. The *Vibrio* organism has not been shown to spread directly from one person to another. Contact with an infected person is not a risk for becoming ill.

Concerns in hurricane-affected areas

Persons with open wounds or broken skin, especially those with illnesses that affect their resistance to infection, should avoid contact with seawater. Persons working in hurricane damaged areas, especially in areas with standing water, should wear boots and other protective gear. Wounds exposed to seawater should be washed with soap and water as soon as possible, infected wounds should be seen by a doctor, and clinicians should monitor these wounds. Information on prevention of wounds and wound care is available on the CDC hurricane response web site. Persons wishing to avoid *V. parahaemolyticus* infection should not eat raw or undercooked seafood, especially shellfish.

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Diagnosis

Doctors should suspect *V. parahaemolyticus* if a patient has watery diarrhea and a history of eating raw or undercooked seafood, especially oysters, or has a wound infection that was exposed to seawater. *Vibrio* organisms may be isolated from cultures of stool, wound, or blood. For stool specimens, a selective media of thiosulfate-citrate-bile salts-sucrose (TCBS) is recommended. If there is clinical suspicion of infection with *Vibrio*, the microbiology laboratory should be notified so that they will perform cultures using the special media.

Treatment

Treatment of gastroenteritis with oral rehydration is usually sufficient because the illness is usually mild and self-limited, and there is little evidence that antibiotic treatment decreases the severity or length of gastrointestinal symptoms. Antimicrobial therapy may be helpful for patients with severe or prolonged diarrhea and can be life-saving for those with wound infections or septicemia. Antibiotics effective against *Vibrio* infections include tetracycline, third-generation cephalosporins, fluoroquinolones, and aminoglycosides.

Recovery

V. parahaemolyticus infection is an acute illness, and those who recover should not expect long-term consequences.

Information about *Vibrio* surveillance may be found at
http://www.cdc.gov/foodborneoutbreaks/vibrio_sum.htm.

For more information, visit www.bt.cdc.gov/disasters,
or call CDC at 800-CDC-INFO (English and Spanish) or 888-232-6348 (TTY).